SECURITY INFORMATION

ARMED FORCES SECURITY AGENCY

DF-296

59/52/CON/AFSA-14

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COMMUNICATIONS EQUIPMENT IN THE USSR

PART A: WIRELESS COMMUNICATIONS EQUIPMENT

1. Attached is an Armed Forces Security Agency translation of a German pamphlet on Soviet wireless communications equipment published in 1941 by the Cryptologic Agency of the Armed Forces (OKW/Chi (Ia)). The original document bears the GMDS number H 3/673.2 and is now filed in AFSA-144. A translation of Part B: Wire and Other Communications Equipment in the USSR will be issued later.

2. In the present translation grave difficulties were encountered with the German transliteration of Russian abbreviations. The Germans had the deplorable habit of transliterating both the Russian S and Z by the Latin S. In addition, two different receivers are listed by the Germans as types CRL-10 and ZRL-10 respectively, although usually the Germans transliterated the Russian letter Ts by either C or Z.

3. While it is realized that this list of Soviet communications equipment is now antiquated, it is hoped that it will serve as useful background material.

July 1952 35 copies

Translated: WJH 46 pages

Distribution: Normal

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High Command of the Armed Forces
File: E 25/2 R Stb WNV/Chi (Ia)
Nr. 4079/41 Secret

Berlin 16.7.4

Communications Equipment

in the

USSR.

Part A

Wireless Communications Equipment

Status: July 1941

[Original cover]

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Preface

Information concerning communications equipment in the USSR is divided into two parts as follows:

Part A) Wireless communications equipment.

Part B) Wire and other communications equipment.

(Part B was sent on 20.6.41 under Chi Nr. 3603/41 Secret).

The now invalid pamphlet "Communications Equipment of Russia", Part A Wireless Communications Equipment (Chi Nr. 6057/40 Secret of 23.11.40) is to be destroyed.

Wave Table

In European Russia since about 1935 the Armed Forces has been using the following wave table. The structure of this wave table is as follows:

The basic frequency of 25 kilocycles is designated as Nr. 1.

Every 25 kilocycles higher corresponds to the following number (See the special table).

The tuning dials of the Russian radio devices have in addition to a graduation scale the division into numbers mentioned above.

Up to now this division has been found only from number 1 to number 225=12,000 meters to about 50 meters. It is suspected that below 50 meters the wave data is not indicated by numbers.

Type of Waves

A 1 = undamped unmodulated telegraphy.

A 2 = undamped tone modulated telegraphy.

A 3 = telephony (voice radio).

Abbreviations

HF = high frequency.

LF = low frequency.

Ah = ampere hours.

HP = horsepower.

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Data to supplement and correct this pamphlet are to be sent to Chi I.

Chief of the High Command of the Armed Forces

per

/s/ KEMPF

Model	Type of device	Page
1 VF	Transceiver	10
1 A	"	11
2 A	"	12
2 D	"	13
3 A	"	14
3 D	"	15
4 A	"	16
4 D	"	17
13 A	"	18
21 A	"	19
22 T	"	20
23 T	"	21
5 AK	Separate transmitter and receiver	22
11 AK	Tranceiver	23
12 AK	Tranceiver	24
6 PK	Combined transmitter and receiver	25
34 DP	" " " "	26
71 TK	Separate transmitter and receiver	27
72 TK	Transceiver	28
RKR	Radio set	29
RB	Combined transmitter and receiver	30
11 SK	Airborne radio set	31
13 SK (MPK 004)	" " "	32
14 SK	" " "	33
15 SK	" " "	34
13 PS	Airborne receiver	35
45 PAK	Receiver	36
51 PA	Motorized direction finder	37
54 PD	Portable loop direction finder	38
55 PK	Short wave DF, Adcock system	39
L 2	Battery charger	40
L 3/RM 5	Gasoline engine with generator	41
BI-234	Receiver	42
BI-235	"	42
B Ch	"	42
B Ch K	"	42
B Ch N	"	42
B Ch S	"	42
TsRL-10 [CRL-10]	"	42
DLS 2	"	43
EKL 5	"	43
EKL 4	"	43
EKL 34	"	43
E Ch B	"	43
E Ch S	"	43
E Ch S 2	"	43
E Ch S 3	"	44
E Ch S 4	"	44
Komsomolets	"	44
KU 1/4	"	44
KUB-4	"	44
PKL-2	"	44
PL-2	"	44
PRL-5	"	44
PRT-4	"	44
S 2-U 2	"	45
SI-235	"	45
UN-2	"	45
UP-3	"	45
UP-200	"	45
US Ch	"	45
TsRL-10 [ZRL-10]	"	46
		46

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Wave Table

Comparative equations: Russian number - kilocycle - meter.

Russian No.	Kc.	M	Russian No.	Kc.	M
1	25	12000	61	1525	196.7
2	50	6000	62	1550	193.5
3	75	4000	63	1575	190.5
4	100	3000	64	1600	187.5
5	125	2400	65	1625	184.6
6	150	2000	66	1650	181.8
7	175	1714	67	1675	179.1
8	200	1500	68	1700	176.5
9	225	1333	69	1725	173.9
10	250	1200	70	1750	171.4
11	275	1091	81	1775	169
12	300	1000	72	1800	166.7
13	325	923	73	1825	164.4
14	350	857	74	1850	162.2
15	375	800	75	1875	160
16	400	750	76	1900	157.9
17	425	706	77	1925	155.84
18	450	667	78	1950	153.8
19	475	632	79	1975	151.9
20	500	600	80	2000	150
21	525	571	81	2025	148.1
22	550	545.4	82	2050	146.3
23	575	521.7	83	2075	144.6
24	600	500	84	2100	142.9
25	625	480	85	2125	141.2
26	650	461.5	86	2150	139.5
27	675	444.4	87	2175	137.93
28	700	428.6	88	2200	136.4
29	725	413.8	89	2225	134.8
30	750	400	90	2250	133.3
31	775	387.1	91	2275	131.85
32	800	375	92	2300	130.4
33	825	363.63	93	2325	129
34	850	352.9	94	2350	127.7
35	875	342.85	95	2379	126.3
36	900	333.3	96	2400	125
37	925	324.3	97	2425	123.7
38	950	315.8	98	2450	122.4
39	1000	307.7	99	2475	121.2
40	1000	300	100	2500	120
41	1025	292.6	101	2525	118.8
42	1050	285.71	102	2550	117.6
43	1075	279.07	103	2575	116.5
44	1100	272.73	104	2600	115.4
45	1125	266.6	105	2625	114.3
46	1150	260.87	106	2650	113.21
47	1175	255.34	107	2675	112.1
48	1200	250	108	2700	111.1
49	1225	244.9	109	2725	110.1
50	1250	240	110	2750	109.1
51	1275	235.29	111	2775	108.1
52	1300	230.8	112	2800	107.1
53	1325	266.42	113	2825	106.2
54	1350	222.2	114	2850	105.3
55	1375	218.2	115	2875	104.3
56	1400	2.413	116	2900	103.4
57	1425	210.53	117	2925	102.6
58	1450	206.9	118	2950	101.7
59	1475	203.4	119	2975	100.8
60	1500	200	120	3000	100

Russian No.	Kc.	M	Russian No.	Kc.	M
121	3025	99.17	181	4525	66.30
122	3050	98.36	182	4550	65.93
123	3075	97.56	183	4575	65.57
124	3100	96.77	184	4600	65.22
125	3125	96	185	4625	64.86
126	3150	95.24	186	4650	64.52
127	3175	95.49	187	4675	64.17
128	3200	95.75	188	4700	63.83
129	3225	93.02	189	4725	63.49
130	3250	92.31	190	4750	63.16
131	3275	91.60	191	4775	62.83
132	3300	90.91	192	4800	62.50
133	3325	90.23	193	4825	62.18
134	3350	89.55	194	4850	61.86
135	3375	88.89	195	4875	61.54
136	3400	88.24	196	4900	61.22
137	3425	87.59	197	4925	60.91
138	3450	86.96	198	4950	60.61
139	3475	86.33	199	4975	60.30
140	3500	85.71	200	5000	60
141	3525	85.11	201	5025	59.70
142	3550	84.51	202	5050	59.41
143	3575	83.92	203	5075	59.11
144	3600	83.33	204	5100	58.82
145	3625	82.76	205	5125	58.54
146	3650	82.19	206	5150	58.25
147	3675	81.63	207	5175	57.97
148	3700	81.08	208	5200	57.69
149	3725	80.54	209	5225	57.42
150	3750	80	210	5250	57.14
151	3775	79.47	211	5275	56.88
152	3800	78.95	212	5300	56.6
153	3825	78.43	213	5325	56.34
154	3850	77.92	214	5350	56.07
155	3875	77.42	215	5375	55.81
156	3900	76.92	216	5400	55.56
157	3925	76.43	217	5425	55.30
158	3950	75.95	218	5450	55.05
159	3975	75.47	219	5475	54.79
160	4000	75	220	5500	54.55
161	4025	74.53	221	5525	54.30
162	4050	74.07	222	5550	54.05
163	4075	73.62	223	5575	53.81
164	4100	73.17	224	5600	53.57
165	4125	73.73	225	5625	53.33
166	4150	72.29	226	5650	53.10
167	4175	71.86	227	5675	52.86
168	4200	71.43	228	5700	52.63
169	4225	71.01	229	5725	52.40
170	4250	70.59	230	5750	52.17
171	4275	70.18	231	5775	51.95
172	4300	69.77	232	5800	51.72
173	4325	69.36	233	5825	51.50
174	4350	68.97	234	5850	51.28
175	4375	68.57	235	5875	51.06
176	4400	68.18	236	5900	50.85
177	4425	67.80	237	5925	50.63
178	4450	67.42	238	5950	50.42
179	4475	67.04	239	5975	50.21
180	4500	66.67	240	6000	50

Russian No.	Kc.	M	Russian No.	Kc.	M
241	6025	49.79	271	6775	44.28
242	6050	49.59	272	6800	44.12
243	6075	49.38	273	6825	43.96
244	6100	49.18	274	6850	43.80
245	6125	48.98	275	6875	43.64
246	6150	48.78	276	6900	43.48
247	6175	48.58	277	6925	43.32
248	6200	48.39	278	6950	43.17
249	6225	48.19	279	6975	43.01
250	6250	48	280	7000	42.86
251	6275	47.81	281	7025	42.71
252	6300	47.62	282	7050	42.55
253	6325	47.43	283	7075	42.30
254	6350	47.24	284	7100	42.25
255	6375	47.06	285	7125	42.05
256	6400	46.88	286	7150	41.96
257	6425	46.69	287	7175	41.82
258	6450	46.51	288	7200	41.67
259	6475	46.33	289	7225	41.53
260	6500	46.15	290	7250	41.38
261	6525	45.98	291	7275	41.24
262	6550	45.80	292	7300	41.10
263	6575	45.63	293	7325	40.96
264	6600	45.45	294	7350	40.82
265	6625	45.28	295	7375	40.68
266	6650	45.11	296	7400	40.54
267	6675	44.94	297	7425	40.40
268	6700	44.78	298	7450	40.27
269	6725	44.61	299	7475	40.13
270	6750	44.44	300	7500	40

Radio Set 1 A

Transceiver

Description	
Transmitter	
Wave length	800-1200 meters, 250-376 kilocycles, Russian number 10-15
Output	2 kilowatts
Type of waves	A 1 + A 3
Range	
A 1	750 km
A 3	250 km
Circuit	Self-excited
Receiver 1	Wave length 250-25,000 meters, 12-1200 kilocycles
Receiver 2	" " 2,800 meters, 37.5-1500 kilocycles
Source of power	
Transmitter	22 HP unit
Antenna	Height of mast 25 meters
Assembly time	2 hours, dismantle 1.5 hours
Crew	25 persons
Transport	5 trucks for the set, 1 truck and 1 motorcycle with sidecar for the crew
Accessories	Creed printer

Radio Set 2 A

Transceiver

Description	
Transmitter	
Wave length	600-1,000 meters, 300-500 kilocycles, Russian number 12-30
Output	1 kilowatt
Type of waves	A 1 + A 3
Range	
A 1	500 km
A 3	250 km
Circuit	Crystal-controlled and self-excited
Receiver 1	Wave length 400-1,000 meters, 300-750 kilocycles
Receiver 2	" " 200-8,000 " , 37.5-1500 kilocycles
Source of power	
Transmitter	6 HP unit
Antenna	Height of mast 25 meters
Assembly time	1 1/2 hours, dismantle time 1 hour
Crew	21 persons
Transport	3 trucks for the set and one truck for the crew
Accessories	Creed printer
Use	In the Army

Radio Set 2 D

Transceiver

Description	
Transmitter	
Wave length	600-1,000 meters, 300-500 kilocycles, Russian number 12-30
Output	1 kilowatt
Type of waves	A 1 + A 3
Range	
A 1	500 km
A 3	250 km
Circuit	Self-excited
Receiver 1	Wave length 400-1,000 meters, 300-750 kilocycles
Receiver 2	" " 400-8,000 meters, 37.5-750 kilocycles
Source of power	
Transmitter	6 HP unit
Antenna	Height of mast 25 meters
Assembly time	80 minutes, dismantle time 60 minutes
Crew	21 persons
Transport	7 2-wheel carts and 1 4-wheel cart
Weight	5-6 tons
Accessories	Wheatstone telegraph

Radio Set 3 A

Transceiver

Description	
Transmitter	
Wave length	400-800 meters, 375-750 kilocycles, Russian number 15-30
Output	250 watts
Type of waves	A 1 + A 3
Range	
A 1	200 km
A 3	100 km
Circuit	Self-excited and crystal-controlled
Receiver	Wave length 285.7-800 meters, 375-1,050 kilocycles, Russian number 15-42
Source of power	
Transmitter	2 HP unit
Antenna	Height of mast 15 meters
Assembly time	25 minutes, dismantle time 20 minutes
Crew	12 persons
Transport	2 trucks for the set
Accessories	1 Morse printer
Use	In the corps

Radio Set 3 D

Transceiver

Description	
Transmitter	
Wave length	400-750 meters, 400-750 kilocycles, Russian number 16-30
Output	250 watts
Type of waves	A 1 + A 3
Range	
A 1	200 km
A 3	100 km
Circuit	Self-excited
Receiver	Wave length 300-800 meters, 375-1,000 kilocycles, Russian number 15-40
Source of power	
Transmitter	2 HP unit
Antenna	Height of mast 15 meters
Assembly time	25 minutes, dismantle time 20 minutes
Crew	12 persons
Transport	5 2-wheel carts
Weight	3 tons

Radio Set 4 A

Transceiver

Description	
Transmitter	
Wave length	285.7-571.4 meters, 525-1050 kilocycles, Russian number 21-42
Output	100 watts
Type of waves	A 1 + A 3
Range	
A 1	150 km
A 3	75 km
Circuit	Self-excited
Receiver	Wave length 218.2-600 meters, 500-1,375 kilocycles, Russian number 20-55
Source of power	
Transmitter	2 HP unit
Antenna	Height of mast 9.6 meters
Assembly time	15 minutes, dismantle time 12 minutes
Crew	12 persons
Transport	2 trucks
Weight	1 ton
Use	In the Guard Divisions

Radio Set 4 D

Transceiver

Description	
Transmitter	
Wave length	285.7-571.4 meters, 525-1050 kilocycles, Russian number 21-42
Output	100 watts
Type of waves	A 1 & A 3
Range	
A 1	150 km
A 3	75 km
Circuit	Self-excited
Receiver	Wave length 200-571.4 meters, 525-1500 kilocycles, Russian number 21-60. 182-600 meters, 500-1,648 kilocycles, Russian number 20-66, (1931 model).
Source of power	2 HP unit
Antenna	Height of mast 9.6 meters
Assembly time	15 minutes, dismantle time 12 minutes
Crew	12 persons
Transport	4 2-wheel carts
Weight	1 ton
Use	Between division and corps

Radio Set 13 A

Transceiver

Description	
Transmitter	
Wave length	600-1,091.1 meters, 275-500 kilocycles
Output	500 watts
Type of waves	A 1
Range	A 1 = 300 km
Circuit	Self-excited
Receiver	Wave length 210-8,000 meters, 37.5-1,429 kilocycles
Source of power	
Transmitter	2 units of 6 HP each
Antenna	Height of mast 21 meters
Assembly time	7 hours, dismantle time 3 hours
Crew	12 persons
Transport	3 trucks with trailer for the mast
Weight	10 tons

Radio Set 21 A

Transceiver

Description	
Transmitter	
Wave length	400-800 meters, 375-750 kilocycles, Russian number 15-30
Output	400 watts
Type of waves	A 1 + A 3
Range	
A 1	400 km
A 3	200 km
Circuit	Self-excited
Receiver	Wave length 343-800 meters, 375-877 kilocycles, Russian number 15-35
Source of power	
Transmitter	4 HP unit
Antenna	Height of mast 20 meters
Assembly time	25 minutes, dismantle time 20 minutes
Crew	12 persons
Transport	2 trucks for the set and 1 truck for the crew

Radio Set 22 T

Transceiver

Description	
Transmitter	
Wave length	400-800 meters, 375-750 kilocycles, Russian number 15-30
Output	250 watts
Type of waves	A 1 + A 3
Range	
A 1	400 km
A 3	200 km
Circuit	Self-excited
Receiver	Wave length 343-800 meters, 375-877 kilocycles, Russian number 15-35
Source of power	
Transmitter	4 HP unit
Antenna	Height of mast 20 meters
Assembly time	25 minutes, dismantle time 20 minutes
Crew	12 persons
Weight	4.1 tons
Use	In the Cavalry

Radio Set 23 T

Transceiver

Description	
Transmitter	
Wave length	285.7-571.4 meters, 525-1050 kilocycles, Russian number 21-42
Output	100 watts
Type of waves	A 1 & A 3
Range	
A 1	250 km
A 3	125 km
Circuit	Self-excited
Receiver	Wave range 200-571.4 meters, 525-1500 kilocycles, Russian number 21-60 182-600 meters, Russian number 20-66 (1931 model)
Source of power	
Transmitter	2 HP unit
Antenna	Height of mast 9.6 meters
Assembly time	15 minutes, dismantle time 12 minutes
Crew	12 persons
Transport	2 2-wheel carts
Weight	2.1 tons
Use	In the Cavalry.

Radio Set 5 AK

Separate transmitter and receiver

Description	
Transmitter	
Wave length	63.1-92.3 meters, 3,250-4,750 kilocycles, Russian number 130-190
Output	20 watts
Type of waves	A 1 + A 3
Range	
A 1	30 km
A 3	15 km
Circuit	Self-excited and crystal-controlled
Tubes	3 each GK 20 or GK 36, 1 each UB-110
Receiver	
Wave length	57.1-92.3 meters, 3,250-5,250 kilocycles, Russian number 130-210
Circuit	Straight receiver, two stage HF, audion with feedback, two stage LF
Tubes	Two each type SB-112, three each type UB-110
Source of power	
Transmitter	Transformer of the type HM-2
Receiver	2 each anode dry batteries BAS 80 and filament accumulator VAS 80
Antenna	During the march; two masts one meter high over the roof of the car. Stationary: two masts 2.5 meters above the roof of the car. When built into the car the antenna mast is 5.6 meters high.
Ground	During the march; body of the truck. Stationary: grounding rod.
Assembly time	5-10 minutes when stationary
Transport	In a truck, on a 2-wheel cart, or on a 4-wheel cart
Crew	3 persons (when in an armored car) 6 persons (when in a 4-wheel cart)
Weight	Complete 128 kilograms.
Manufacture	Plant 203, Moscow
Use	In the regimental staff for communications with the division staff.

Radio Set 11 AK

Transceiver

Description	
Transmitter	
Wave length	66.6-120 meters, 2,500-4,509 kilocycles, Russian number 100-180
Output	800 watts, adjustable in three stages (100-30-10%)
Type of waves	A 1 + A 3
Range	
A 1	700 km
A 3	350 km
Circuit	Self-excited and crystal-controlled
Receiver	
Wave length	60-120 meters, 2,500-5,000 kilocycles, Russian number 100-200
Circuit	3 circular straight receivers (Kreis-Geradeausempfänger) with feedback
Tubes	3 each
Source of power	6 HP unit
Antenna	20 meters high
Assembly time	30 minutes, dismantle time 25 minutes
Crew	14 persons
Transport	3 trucks
Use	Between division and corps
Note	1939 11 AK-model 33 appeared

Radio Set 12 AK

Transceiver

Description	
Transmitter	
Wave length	66.3-96 meters, 3,125-4,525 kilocycles, Russian number 125-181
Output	200 watts adjustable in three stages (100-30-10%)
Type of waves	A 1 + A 3
Range	
A 1	150 km
A 3	75 km
Circuit	Self-excited
Receiver	
Wave length	60-120 meters, 2,500-5,000 kilocycles, Russian number 100-200
Circuit	3 circular straight receivers (Kreis-Geradeausempfänger)
Tubes	5 each
Source of power	
Transmitter	3 HP unit
Antenna	Height of mast 15 meters, in addition a special antenna of lesser height for quick assembly.
Assembly time	15 minutes, dismantle time 12 minutes
Crew	12 persons
Transport	2 trucks
Weight	6.6 tons with truck

Radio Set 6-PK

Combined transmitter and receiver

Description	
Transmitter	
Wave length	57.1-90 meters, 3,750-5,250 kilocycles, Russian number 150-210
Output	0.66 watts
Type of waves	A 1 + A 3
Range	
A 1	16 km
A 3	8 km
Tubes	4 each type UB-110
Receiver	
Wave length	53.3-80 meters, 3,750-5,625 kilocycles, Russian number 150-225
Circuit	Straight receiver, one stage HF, audion with feedback, two stage LF
Tubes	One each type SB-112, three each type UB-110
Source of power	
Transmitter and Receiver	2 each anode dry batteries VO
	2 each storage batteries type DA-1(a 80 V)
Antenna	Stationary: dipole 2 x 15 meters on one-meter high mast During the march: whip antenna 1.5 meters high, consisting of three parts
Ground	The mast of the transceiver is used as counterbalance
Assembly time	8-10 minutes
Crew	2 radio operators
Transport	Normal: 2 persons Emergency: 1 person
Packing	In two wooden boxes with cloth cover
Weight	Transmitter and receiver: 13 kilograms
	11.7 kilograms (accessory)
Manufacture	Ordshonikidze, Moscow
Accessories	Small tent, pocket for tools, battery bulbs, spare antenna, tube box with 14 tubes of type UB-110, tube box with two tubes of type SB-112, cable drum for the antenna
Use	In the infantry and the artillery

Radio Set 34 DP

Combined transmitter and receiver

Description		
Transmitter		
Wave length	150-300 meters, 1,000-2,000 kilocycles	
Type of waves	A 1 + A 3	
Range		
A 1	6-8 km	
A 3	3 km	
Tubes	2 each type PT-2	
Receiver		
Wave length	150-300 meters	
Tubes	4 each type PT-2	
Source of power		
Transmitter and Receiver	Anode potential 160 volts	
Antenna	Dipole antenna 2 x 25 meters long	
Weight	Transmitter and receiver	10 kilograms
	Source of power	14 "
Year of construction	1930	
Use	In the battalion	
Note	Produced 1930/31	

Radio Set 71 TK

Separate transmitter and receiver

Description			
Transmitter			
Wave length	53.3-75 meters, 4,000-5,625 kilocycles, Russian number 160-225		
Output	20 watts		
Type of waves	A 1 & A 3		
Range			
A 1	On the march: 5 km		
A 3	On the march: 1 km Stationary: 4 km		
Circuit	Crystal-controlled and self-excited		
Tubes	3 each type GK 36		
Receiver			
Wave length	53.3-75 meters, 4,000-5,625 kilocycles, Russian number 160-225		
Circuit	Superheterodyne		
Tubes	1933 model 5 each type UB-110 2 each type SB-112	1934 model 5 each type UB-110 1 each type SB-112	
Source of power			
Transmitter	Transformer type RM 2, 750 volts, 130 mA, or anode dry battery type BO		
Receiver	Anode batteries type BO Storage battery type 2 DA-1		
Antenna	Stationary: vertical whip antenna 1.5 meters high During the march: horizontal antenna around the tank turret.		
Crew	1 person		
Size	**Width**	**Height**	**Depth**
Transmitter	316 mm	214 mm	210 mm
Receiver	386 mm	210 mm	225 mm
Manufacture	Plant No. 203, Moscow		
Use	In tanks of the following types: T-26, T-37, and T-38		
Note	There is also the type 71-TK-1 in which the modulation has been improved and which is used in all tanks.		

Radio Set 72 TK

Transceiver

Description		
Transmitter		
Wave length	53.3-75 meters, 4,000-5,625 kilocycles, Russian number 160-225	
Output	80 watts	
Type of waves	A 1 & A 3	
Range	On the march	Stationary
A 1	20 km	50 km
A 3	10-15 km	25 km
Circuit	Self-excited and crystal-controlled	
Tubes	7 tubes	
Receiver		
Wave length	53.3-75 meters, 4,000-5,625 kilocycles, Russian number 160-225	
Circuit	Superheterodyne	
Tubes	8 tubes	
Source of power		
Transmitter	Transformer	
Receiver	Anode dry battery and storage battery	
Antenna	2 masts 1 meter high on the tank turret to which a horizontal T antenna is fastened. The horizontal part of this antenna is 3.5 meters long.	
Weight	300 kilograms	
Use	In tanks	

Radio Set RKR

Radio set RKR corresponds to the set 6 PK.

The difference lies in the fact that RKR is loaded on horses.

Year of construction 1933

Used by troops since 1934.

Antenna	Consisting of four telescoping duraluminum rods with a total length of 4.8 meters.
Use	In cavalry reconnaissance platoons.
Counterbalance	15 meters of wire strung out on the ground.

Radio Set RB

Combined transmitter and receiver

Description	
Transmitter	
Wave length	Short, medium and long wave
Output	4.4-5.5 watt anode output
Type of waves	A 1 + A 3
Tubes	1 each type SB-244, 1 each type SB-245
Receiver	
Wave length	Short, medium, long wave
Circuit	Superheterodyne with a high-frequency preceding stage
Tubes	3 each type SB-241, 1 each type SB-242, 1 each type SB-243, 1 each type UB-240
Source of power	
Transmitter	Hand crank generator or
Receiver	2 storage batteries type NKN-22 4 anode dry batteries type BAS-MG-60
Antenna	During the march: whip antenna with 5 terminals arranged in vertical order. When stationary: for medium and long waves dipole 2 x 17 and for short wave dipole 2 x 10
Assembly time	2-3 minutes
Transport	2 persons (in emergency 1 person)
Packing	Antenna material in a cellulose bag
Year of construction	1938

Airborne Radio Set 11 SK

Transceiver

Description	
Transmitter	
Wave length	66.6-120 meters, 2,500-4,505 kilocycles, Russian number 100-180
Output	100 watts
Type of waves	A 1 + A 3
Range	
A 1	700 km
A 3	350 KM
Circuit	Self-excited and crystal-controlled
Receiver	
Wave length	60-120 meters, 2,500-5,000 kilocycles, Russian number 100-200
Circuit	3 circles [Kreiser]
Tubes	5 each
Source of power	
Transmitter	Propeller generator and storage battery
Antenna	Telescopic antenna 12.5 meters long and a rigid T antenna under the surface of the airplane. Each streamer is five meters long.
Crew	1 person
Weight	72 kilograms
Use	In airplanes TB

Airborne Radio Set 13 SK

Also MPK 004 separate transmitter and receiver

Description			
Transmitter			
Wave length	I 6616-88.8 meters, 3,375-4,625 kilocycles, Russian number 135-180		
	II 82.7-120 meters, 2,500-3,625 kilocycles, Russian number 100-145		
Output	40 watts		
Type of waves	A 1 + A 3		
Tubes	4 each GK 36, 1 each UB-110		
Receiver	3 circular straight receivers (Kreis-Geradeausempfänger)		
Wave length	6-120 meters, 2,500-5,250 kilocycles, Russian number 100-200		
Circuit	2 stage screen-grid HF, 1 stage audion with feedback 2 stage LF amplification (1 stage Wi, 1 stage Trafo)		
Tubes	2 each SB-112, 3 each UB-110		
Source of power			
Transmitter	Transformer on the 24 volt electrical wiring system, type RUN-120 a, primary: 24 volts; 9.5 amperes secondary: 750 volts, 0.16 amperes		
Receiver	Transformer on the 24 volt electrical wiring system, type RUN-20 m.		
Antenna	Fixed T antenna on the wings		
Size	Width	Height	Depth
Transmitter	335 mm	315 mm	180 mm
Receiver	330 mm	225 mm	235 mm
Weight	Transmitter 7.450 kilograms Receiver 6.920 kilograms (Complete set: 37.340 kilograms)		
Manufacture	Transmitter: electric technical factory "Ordzhonikidze", Moscow Receiver: factory "Lenin", Gorki Transformer: electric motor factory "Lepse", Moscow		
Year of construction	1935		
Accessories	Remote control		
Use	In airplanes		
Note	Appeared in 1939		

Airborne Radio Set 14 SK

Transceiver

Description	
Transmitter	
Wave length	64.8-88.8 meters, 3,380-4,630 kilocycles, Russian number 135-185
Output	20 watts
Type of waves	A 1 & A 3
Circuit	Self-excited and crystal-controlled
Range	
A 1	60 km
A 3	20 km
Receiver	
Wave length	60.0-88.8 meters, 3,380-5,000 kilocycles, Russian number 135-200
Tubes	4 each
Source of power	
Transmitter	Propeller generator and storage battery
Antenna	Hanging antenna 13 meters long and fixed T antenna on the wings
Crew	1 person
Weight	38.8 kilograms

Airborne Radio Set 15 SK

Transceiver

Description	
Transmitter	
Wave length	60-75 meters, 4,000-5,000 kilocycles, Russian number 160-200
Output	20 watts
Type of waves	A 3
Range	10 km
Circuit	Self-excited and crystal-controlled
Receiver	
Wave length	(not given!)
Circuit	2 circles (Kreiser)
Tubes	4 each
Source of power	
Transmitter	Propeller generator
Antenna	T shaped fixed antenna on the wings
Crew	1 person
Weight	35 kilograms
Accessory	Remote control

Airborne Receiver 13 PS

Description	
Wave length	550-1,100 meters, 272.7-545 kilocycles
Circuit	Superheterodyne
Tubes	8 each
Source of power	Anode dry battery and storage battery
Antenna	Hanging antenna 50 meters long
Crew	1 person
Weight	25 kg.
Use	In airplanes type TB

Receiver 45 PAK

Description	
Receiver 1	
Wave length	10-220 meters, 1,363-30,000 kilocycles
Receiver 2	
Wave length	10-220 meters, 1,363-30,000 kilocycles
Receiver 3	
Wave length	200-25,000 meters, 12-1500 kilocycles
Source of power	Unit RM-5
Antenna	3 masts, each 9.6 meters high
Assembly time	30 minutes
Crew	5 persons including the driver
Transport	1 1 1/2 ton truck

Direction Finder 51 PA

Motorized direction finder

Description	
Direction finder	
Wave length	280-4,000 meters, 75-1071 kilocycles
Circuit	Straight receiver 3 stage HF, audion, 2 stage LF
Range	Fixes 100 watt transmitters at 150 km, 20 watt transmitters at 50 km. Accuracy of fix 1-1.5°
Tubes	3 each type SB-112, 3 each type UB-110
Source of power	
Direction finder	Motor L 2 and RM-5
	Storage batteries and charger
Antenna	1) Adjusted loops
	2) Antenna on special 9.6 meter high mast with counter-balance
Assembly time	20 minutes, dismantle time 15 minutes
Crew	6 persons including the driver
Transport	1 1 1/2-ton truck

Direction Finder 54 PD

Portable Frame-Aerial Direction Finder

Description	
Wave length	90-1500 meters, 200-3,333 kilocycles
Circuit	Superheterodyne
Range	Fixes 100 watt transmitters at 120 km 20 watt " at 30 km Accuracy of fix 1-2°
Tubes	8 each
Source of power	Anode dry battery and storage battery
Antenna	3 interchangeable loops with compensation whip antennas
Assembly time 10	10 minutes
Crew	2 persons
Transport	1 2-wheel cart or portable
Weight	43 kilograms
Use	In the intercept service

Direction Finder 55 PK

Short Wave Direction Finder, Adock System

Description	
Wave length	12-100 meters, 3,000-25,000 kilocycles
Circuit	Superheterodyne
Range	0-100 km and 1,500-15,000 km. At distances of 100-800 km direction finding is difficult.
Tubes	7 each
Source of power	Anode dry battery and storage battery
Antenna	A horizontal antenna which can be extended to 3.8 meters and at each end of which a vertical rod 1.3 meters long is fastened.
Assembly time	10-15 minutes
Crew	2 persons
Transport	2-wheel cart, passenger car or portable
Use	In the intercept service

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Battery Charger L 2

Description	
	Gasoline engine type L 2
	1 cylinder engine
	2 HP output
	Cylinder diameter 58 mm
	Piston stroke 90 mm
	Piston rings 4 each
	Width of strap 120 mm
	Carburetor type Renault number 23
	or Solex
	Gasoline consumption per hour 0.8 liters
	Gasoline tank holds 6.5 liters
	1800 revolutions per minute
Size	92 x 41 x 75 cm
Weight	100 kilograms
Use	[left blank]
Note	Described 1932
	Replaced by the L 3

Battery Charger L 3/R M 5

Gasoline Engine with Generator

Gasoline engine — Type L 3

1 cylinder engine, 4 stroke

3 HP, manufacture Vato

Cylinder diameter 60 mm.

Piston rings 3 each

Piston stroke 90 mm

Width of strap 120 mm

Carburetor type Solex

Gasoline consumption per hour 1.2 kilograms

Gasoline tank holds 6.5 liters

Coupled by a transmission belt with

Generator — Type R M 5

Output: 120 volts, 1.5 amperes = 180 watts
36 volts, 20 amperes = 720 watts
Maximum total output = 900 watts
Has 2 commutators
200 revolutions per minute

Manufacture — VEO (Military Electrical Company)

Transport — On trucks, supply cars, or 2-wheel carts

Size

	Height	Width	Depth
Gasoline engine:	72	41.5	64 cm
Generator:	[left blank]		

Weight — Gasoline engine 87 kilograms

Use — In division staffs and higher

Note — Described 1932

Replacement for L 2. L 3 appeared in 1937 on the ?- AK set.

Receiver BI-234

Wave length	200-2,000 meters, 150-1,500 kilocycles
Circuit	1 stage HF, audion, 1 stage LF
Tubes	1 each type SB-154 1 each type UB-152 1 each type SB-155
Type of current	Battery, 2 volts and 100 volts
Manufacture	Ordzhonikidze

Receiver BI-235

Manufacture	Elektrosignal

Receiver B Ch

Wave length	280-1,900 meters, 157.9-1,071 kilocycles
Circuit	1 stage HF, audion, 2 stage LF 1 each type UB-107 1 each type UB-132
Type of current	Battery, 4 volts and 30-160 volts
Manufacture	Kazitskij (designed by Engineer Borusevich)

Receiver B Ch K

Manufacture	Kazitskij (designed by Engineer Borusevich)

Receiver B Ch N

Wave length	200-1,900 meters, 157.9-1,363 kilocycles
Circuit	1 stage HF, audion, and 2 stage LF (Trafo)
Tubes	UB-107 and UB-132
Type of current	Battery, 4 volts and 30-160 volts
Manufacture	Kazitskij (designed by Engineer Borusevich)
Note	New model.

Receiver B Ch S

Circuit and tubes	Receiver with screen-grid output tubes
Manufacture	Kazitskij (designed by Engineer Borusevich)

Type of current	Alternating current
Manufacture	1) Elektrosignal
	2) Kazitskij

Receiver D L S 2

Circuit and tubes	Audion opposite-contact net receiver for alternating current

Receiver E K L 5

Circuit	2 stage HF, audion, 1 stage LF
Tubes	1 each type SO-44, 1 each type UO-104, 2 each type UB-107
Type of current	Direct current

Receiver E K L 4

Wave length	220-2,000 meters
Type of current	Alternating current net 110-220 volts
	Rectifier on VO-116
Manufacture	Kazitskij
Note	Introduced 1934

Receiver E K L 34

Manufacture	Kazitskij

Receiver E Ch B

Circuit and tubes	Screened 4 tube battery receiver

Receiver E Ch S

Circuit and tubes	4 tube net receiver with screened-grid tube

Receiver E Ch S 2

Wave length	200-2,000 meters, 150-1,500 kilocycles
Circuit	Straight, 1 stage HF, audion, 1 stage LF
Tubes	1 each type SO-124, 1 each type SO-118, 1 each type UO-104
Type of current	Alternating current 110-120-200 volts Rectifier on BO-116
Manufacture	Ordzhonikidze
Note	Appeared in 1937

*Translator's note: The German form of this abbreviation was C R L-10. See also the last item on the last page.

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Wave length	200-2,000 meters, 150-1,500 kilocycles
Circuit and tubes	4-tube receiver. Instead of the audion SO-124 there is an output transformer.
Type of current	Alternating current
Manufacture	Ordzhonikidze
Note	Obsolete in 1936

Receiver E Ch S 4

Wave length	200-2,000 meters, 150-1,500 kilocycles
Type of current	Alternating current
Manufacture	Ordzhonikidze
Note	Obsolete in 1933

Receiver Komsomolets

Type of current	Alternating current
Manufacture	Kharkov factory

Receiver K U 13-4

Circuit and tubes	Short wave receiver

Receiver K U B-4

Wave length	10-200 meters, 1,500-30,000 kilocycles
Circuit	Direct, 1 stage HF, Audion, 2 stage LF
Tubes	1 each type SB-147 or SO-44, 2 each type UB-107, 1 each type UB-110

Receiver P K L-2

Circuit and tubes	2 tube short wave receiver

Receiver P L-2

Circuit and tubes	2 tube receiver

Receiver P R L-5

Wave length	280-1,900 meters, 157.9-1,071 kilocycles
Circuit	Straight, 2 stage HF, audion, and 2 stage LF
Type of current	Battery, 4 volts and 30-160 volts
Manufacture	Kazitskij

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Receiver P R T-4

Wave length	220-2175 meters, 137.9-1,363 kilocycles
Circuit	Straight, 3-stage HF, audion, LF
Type of current	Battery, 4 volts and 80 volts
Manufacture	Kazitskij

Receiver S 2-U 2

Note	Mentioned in 1936

Receiver S I-235

Wave length	200-2,000 meters, 150-1,500 kilocycles
Circuit	Straight, 1-stage HF, audion, 1-stage LF
Tubes	1 each type SO-148, 1 each type SO-124, 1 each type SO-122
Type of current	Alternating current net 110-220 volts. Rectifier on VO 202
Manufacture	Ordshonikidze
Note	Produced in rather large quantities in 1936

Receiver U N-2

Circuit	2-tube LF amplifier

Receiver U P-3

Circuit	HF amplifier
	Power output 3 watts
Manufacture	Profradio

Receiver U P-200

Circuit	HF amplifier
	Power output 200 watts
Manufacture	Profradio

Receiver U S Ch

Manufacture	Kharkov factory

Receiver Ts R L-10*

Wave length	200-2,000 meters, 150-1500 kilocycles
Circuit	Superheterodyne
Tubes	1 each type SO-183, 1 each type SO-192, 1 each type SO-193, 1 each type SO-187
Type of current	Alternating current net 110-127-220 volts
	Rectifier 1/VO-188 (VO-116)
Manufacture	Kazitskij
Note	Superheterodyne

*Translator's note: The German form of this abbreviation was Z R L-10.